

ABSTRACT OF THE DISCLOSURE

The present invention aims at high-yield manufacture of a semiconductor device of stable quality. A silicon oxide film, a polysilicon film, and a silicon nitride film are formed on a 5 silicon substrate. After a predetermined trench structure has been formed in the films by means of etching, an oxide film is deposited so as to fill in the trench structure. The silicon substrate is subjected to chemical-and-mechanical polishing (CMP) while the silicon nitride film is used as a stopper film, 10 thereby forming an isolation oxide film. The thickness of the isolation oxide film is measured, and the isolation oxide film is etched under the requirements which have been determined on the basis of the resultant measurement value, by means of the feedforward technique. Subsequently, the silicon nitride film 15 and the polysilicon film are removed sequentially.